ABAG

BAY AREA Regional Energy Network

"Bay Area communities working together for a sustainable energy future."

Request for Bids
Release Date: March 31, 2016
Due Date: April 15, 2016

Municipal Zero Net Energy Technical Assistance

The Bay Area Regional Energy Network (BayREN) is seeking bids from qualified firms or individuals with expertise to assist local governments by **conducting engineering and cost analysis for Zero Net Energy design and implementation of municipal facilities.**

Please provide a description of services and estimate of cost for the full consultant scope of work described below ($55,000 services to be contracted April-December 2016, with potential expansion of contract in calendar year 2017). Bid package (12 page max) should include a narrative describing:

A. your approach to the Consultant Scope of Work below,
B. a detailed budget estimate,
C. relevant experience of organization including example projects,
D. key staff qualifications and billing rates,
E. description of availability to start work immediately and throughout the 2016-2017 Fiscal Year,
F. demonstrated ability to obtain the insurance policies described in Attachment 2.

The deadline for application submittal is **5:00 p.m. on April 15, 2016.**

Bids should be submitted electronically to codes@bayren.org with the subject "Municipal Zero Net Energy Technical Assistance Proposal". For inquiries or clarification of this bid solicitation, please contact Heather Larson at hlarson@stopwaste.org or (510) 891-6555. This Request for Bids and any clarifications will be posted to: http://abag.ca.gov/contracts/ace.html.

About BayREN Codes and Standards

BayREN is a collaboration of the 9 counties that make up the San Francisco Bay Area. Led by the Association of Bay Area Governments (ABAG), BayREN implements effective energy saving programs on a regional level and draws on the expertise, experience, and proven track record of Bay Area local governments to develop and administer successful climate, resource, and sustainability programs. BayREN is funded by California utility ratepayers under the auspices of the California Public Utilities Commission. One of only two Regional Energy Networks in the state, BayREN represents 20 percent of the state's population.

Learn more about BayREN programs and current statistics https://www.bayren.org/about.

See BayREN's impact and accomplishments https://www.bayren.org/impact-and-accomplishments.

BayREN has allocated 2016 Codes & Standards (C&S) funding to support the development and implementation of Zero Net Energy (ZNE) and Performance/Benchmarking reach codes. This solicitation is for work to be conducted as the #1 of 3 components of this broader ZNE reach code initiative. The consultant work contracted as an outcome of this solicitation will be led by BayREN member StopWaste.

Priming the Market for ZNE Reach Codes

As Bay Area local governments embark on the process of bringing a new generation of reach code ordinances through public process for adoption they have identified policy enabling technical support requests of the BayREN C&S program. The following technical project will provide local governments with necessary ground-work analysis to understand cost-effectiveness of ZNE in non-residential building types, to lead by example by demonstrating ZNE ordinance feasibility in existing municipal buildings, and provide technical information to support development of tools and standards necessary for an enforceable ZNE reach code. Furthermore, the project aligns closely with regional Energy Watch (EW) programs, providing an opportunity for BayREN and PG&E Local government Partnership teams to collaborate in working toward the State's ZNE goals.

Municipal ZNE Technical Assistance: Consultant Scope of Work

The exact scope of services, price and schedule shall be determined in negotiations with BayREN, StopWaste and the selected contractor.

Energy Efficiency Potential of Municipal ZNE Buildings ($55,000)

Bay Area jurisdictions, who historically led the state in adoption of policies to exceed T-24, have taken the stance that they must demonstrate ZNE ordinance feasibility on their own Municipal buildings first in order to gain public support for wide-spread adoption of local ZNE policies in the Commercial and Residential Sectors. Municipal building stock also provides the ideal case to implement community scale (rather than building-level) ZNE in that the renewable energy required to power energy efficient buildings can be sited on buildings and public land throughout a municipality to off-set their electric and gas bills.

Real municipal buildings, which are already funded to undertake construction (i.e. for seismic retrofits, or installation of solar power generation), will undergo engineering and cost analysis that will feed into the development of Municipal prototypes (e.g. library, fire station, administrative office, new construction high-rise, recreation center etc). This analysis and data will enable the up-front design of ZNE Municipal projects which would fall under an ordinance, will ready the projects to apply for funding/financing for implementation, and provide real cost and savings data that are necessary to conduct a cost-benefit analysis as part of adopting a ZNE Municipal ordinance (for new construction or existing buildings). A regional ZNE cost-benefit analysis is not included in the scope/budget for this project, but rather would build upon the savings and cost data provided by the technical analysis described in Tasks 1-5 below.

The analysis will leverage the PG&E rate-payer funded Municipal programs for audits and incentive details. It will build upon Energy Watch and other utility offerings with project team engineering (in the form of a consultant) to develop more detailed specifications for deep energy reductions and system design to offset both gas and electric energy uses of a site, and full project cost estimates.

The project method contains the following primary Tasks 1-5:

1. Provide engineering analysis on flag-ship projects to demonstrate the feasibility of technology implementation and prime the market for ordinance implementation:

a. Develop energy efficiency scopes of work (measures, costs, incentives, and predicted savings) for actual buildings for which city staff will provide billing and construction details.
b. Recommend procurement strategy for financing the projects

2. Work with BayREN member StopWaste and individual jurisdictions to review municipal building portfolios to select 5-10 municipal facilities for ZNE analysis and implementation. BayREN jurisdictions have requested project level engineering for ZNE technology solutions on their existing and new municipal buildings that would be targeted by any potential ZNE ordinance.

If requested by an individual jurisdictions/project sponsor, example consultant services for system design will consider trade-offs between gas and electric energy usage offset, and include specifications for make the building all electric to meet on-site or community scale renewable generation and storage capacity. This would require identification of potential system specifications for Municipal HVAC systems to employ electric source heat pump or similar unit. Analysis might include upfront cost of the equipment plus lifecycle fuel and maintenance costs for a standard system versus an all-electric system. This cost can then be weighed against the benefit of an all-electric system such as GHG emission reductions as well as the ability to offset the load with distributed renewables. In this example, consultant might conduct a cost-benefit analysis of whether it would be better to:

a. install a standard natural gas-fired HVAC system, plus enough PV to potentially offset our entire electric load (i.e. zero-net-electricity but not carbon-neutral), versus
b. develop an all-electric building system, plus the maximum potential PV, knowing that in this case we might not be able to achieve zero-net-energy due to a larger electric load, but would potentially achieve a much smaller carbon footprint.

3. Incorporate energy efficiency data and strategies into more comprehensive plans for off-setting entire municipal energy load within a jurisdiction (city/county's buildings, facilities, street lights, and electric vehicles) with Energy Efficiency, Demand Response, Energy Storage and Distributed Generation. Some leading jurisdictions are already inventorying their total eligible square footage of open roof/land for renewable generation installation to off-set their remaining municipal energy usage after all efficiency potential has been achieved. Other jurisdictions have expressed strong interest in this assistance and will be looking for resources outside of ratepayer energy efficiency funding to conduct the generation and storage related portion of this analysis.

4. Compile project level analysis into a ZNE policy recommendation that will inform the templates developed under #2, a separate scope of work led by BayREN member San Mateo County.

5. Compare ZNE standards/definitions to Living Building Challenge and LEED standards in order to create a comprehensive reach-code policy recommendation[1] for energy, water and waste that jurisdictions can bring to council.

[1] An additional $15,000-20,000 of funding might be available for Task 5 in a separate solicitation. BayREN would like to see a response regarding bidder's ability/approach to perform Task 5, but the currently available $55,000 budget should be allocated primarily to tasks 1-4.